

ISP203A, Section 740
Understanding the Earth: Global Change

"The honest debate is not about whether or not the world is changing in ways that will seriously affect our lives. The debate is about whether or not we choose to understand and what we choose to do with that understanding."

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Office Hours:	M 11:00-noon
	Fr 8:00-10:00
	Other times by appointment

In Class Hours: Wednesdays, 12:40-1:30 (Room 326 in the Nat. Sci. Bldg)

Arranged Hours: You will need to spend approximately 5 hours per week viewing lectures, doing assigned readings and completing assignments

Course Goals:

1. Understand why global climate change is occurring and how it may change in the future.
2. Use theories and models as unifying principles that help us understand global change phenomena and make predictions about future change.
3. Illustrate the interdependence between developments in science, social and ethical issues about global change.

Text: There is no text for this class. Readings will be posted online.

*If you don't have PowerPoint, Microsoft Word, a PDF file reader (such as Adobe Acrobat) and QuickTime media player on your computer, use a university computer or download these viewers and players for free.

Download PowerPoint & Word viewer at:

<http://office.microsoft.com/en-us/downloads/FX101321101033.aspx?pid=CL100570421033>

Download Adobe Acrobat reader at

<http://get.adobe.com/reader/>

Download QuickTime at

<http://quicktime.official-free.info/>

You will find the lessons, readings and homework on ANGEL: <https://angel.msu.edu/default.asp>

Lab: The laboratory for this course is OPTIONAL but recommended.

Classroom Policies

1. Attendance during class discussions is encouraged but not required.
2. Academic Honesty must be observed in all activities. For more on students' rights and responsibilities check with the ombudsman: <http://www.msu.edu/unit/ombud/>

Academic Honesty: Article 2.3.2 of the Academic Freedom Report states that the student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards. In addition, the Center for Integrative Studies adheres to the policies on academic honesty specified in General Student Regulation 1.0, *Protection of Scholarship and Grades*; the all-University policy on *Integrity of Scholarship and Grades*; and Ordinance 17.00, Examinations. (See *Spartan Life: Student Handbook and Resource Guide* and/or the MSU Web site (www.msu.edu.)

Note: For more information about Integrative Studies General Science, go to our web site at: <http://www.ns.msu.edu/cisgs/CISGSHOMEPAGE/>

COURSE SCHEDULE

Date	What We Will Do In Class Quizzes cover material since last test or quiz.	What You Will Do Before Class. Lessons to be completed before class. Lessons include video lectures, readings, ungraded activities and graded homework.
1/13	Learn about using the online resources	Lesson 0: Introduction to the course Lesson 1: Water Cycle
1/20	Discuss lessons 2-4	Lesson 2: Reservoirs and residence time Lesson 3: Residence time & processes that cause movement and change Lesson 4: Processes and principles for movement & change
1/27	Quiz	Lesson 5: Potential & Kinetic energy Lesson 6: Summary of Water Cycle Principles Lesson 7: Solar energy and atmospheric and oceanic circulation
2/3	Quiz	Lesson 8: Groundwater Lesson 9: Evidence for Past Changes in Water Cycle Lesson 10: Future Changes in Water Cycle
2/10	Discuss lessons 11&12	Lesson 11: Ethics Lesson 12: Responding to the Freshwater Crisis
2/17	Test on lessons 1-13.	Lesson 13: Review of Water Cycle <i>Study for test</i>
2/24	Discuss lessons 14-16	Lesson 14: Plate Tectonics Lesson 15: Plate Tectonic Boundaries Lesson 16: Buoyancy & Convection
3/3	Quiz	Lesson 17: Processes at Plate Boundaries Lesson 18: Rock Cycle, part I Lesson 19: Rock Cycle, part II
3/10	No Class – Spring Break	

3/17	Quiz	Lesson 20: Calcium Cycle, part I Lesson 21: Calcium Cycle, part II Lesson 22: Organic Matter in Sediments and Sedimentary Rocks
3/24	Test on lessons 14-23	Lesson 23: Review <i>study for test</i>
3/31	Discuss lessons 24- 26	Lesson 24: Introduction to Global Climate Change Lesson 25: Carbon: Matter and Reservoirs Part 1 Lesson 26: Matter and Reservoirs part 2
4/7	Quiz	Lesson 27: Principles that move and change matter Lesson 28: Evidence of Past Climate Change
4/14	Discuss lessons 29 - 31	Lesson 29: Predicting the Future Lesson 30: Climate Change Ethics Lesson 31: Are there alternatives to climate disaster?
4/21	Test on lessons 24-32	Lesson 32: Review
4/28	Review for final	Lesson 33- Course review
5/5	Final Exam 3-5 PM room 326 Nat. Sci. Bldg	

Evaluation/Grades:

Tests: 3 tests = 20% each. **60% of course grade**

Final exam*: **25% of course grade**

Quizzes: 2.5% each - drop the lowest = **10% of course grade**

Homework: **5% of course grade**

*The final will be comprehensive.

Tests: The tests and final will be a combination of 15- 25 objective questions worth 1 point each and approximately 3-5 short response questions worth 10 to 25 points each.

You may bring one sheet of 8 ½ X 11 in. paper with any notes, drawing, etc. you wish to each quiz and test. You can only write on one side of the sheet. Sheets will be checked during the quizzes and tests. Any sheets found to have information on both sides will be collected immediately. You may write or print as small as you like, but you may not bring a magnifying glass to read it. This sheet must be signed and turned in with your test. It is suggested that you work with a stuffy partner to help decide what should be on the sheet.

Curve: The average score on each test or quiz will be curved up such that the lowest score in the upper 10% of the class will equal 90% or above. For example, if the lowest score in the upper 10% were 86%, then everyone would receive an additional 4 points. Test will never be curved down.

Grading Scale: 4.0 (90 –100%)

3.5 (85-89)

3.0 (80-84)

2.5 (75-79)

2.0 (70-74)

1.5 (65-69)

1.0 (60-64)

0.0 (0-59)